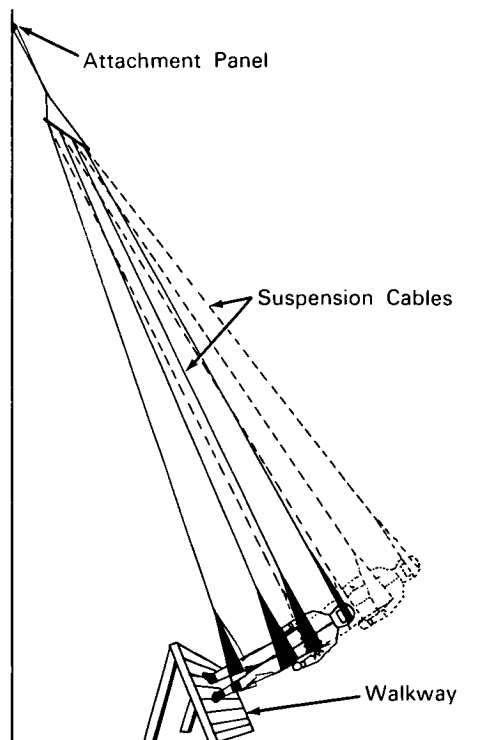


NASA TECH BRIEF



This NASA Tech Brief is issued by the Technology Utilization Division to acquaint industry with the technical content of an innovation derived from the NASA space program.

Technique Simulates Effect of Reduced Gravity



The problem: Lack of a suitable device for simulating the effects of lunar gravity. There are insufficient detailed data on the ability of lunar explorers to perform various locomotive tasks, such as walking, running, and jumping.

The solution: An arrangement of near-vertical cables that suspend the test subject perpendicular to an inclined walkway, thus simulating the effects of reduced gravitational pull.

How it's done: The test subject is suspended at various points of the body by a system of near-vertical cables attached to a crossbar. From the crossbar a single cable is attached to an overhead structure. The lengths of the various cables are adjusted so that the test subject can stand with a normal erect posture on an inclined walkway. Gravity simulation can be varied from zero g to 1 g by variation of the inclined walkway-to-cable harness angle with respect to the vertical.

(continued overleaf)

Notes:

1. Proper use of this technique may be helpful in the rehabilitation of persons suffering from complete or partial paralysis as well as the strengthening of people who have been confined to complete bed rest.
2. Further information concerning this invention is described in NASA TN D-2176, "Evaluation of a Gravity-Simulation Technique for Studies of Man's Self-Locomotion in Lunar Environment" by Donald E. Hewes and Amos A. Spady, Jr., March 1964, available from the Department of

Commerce, Office of Technical Services, Washington, D.C. 20230; price \$1.00. Inquiries may also be directed to:

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Source: Donald E. Hewes and Amos A. Spady, Jr.
(Langley-44)